



# Analyze competency gap design hybrid approaches to build up positive performance of counsellor

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## Abstract

The challenges of the BANI era require college counselors to improve their competencies (knowledge, skills, attitudes), especially in medical schools where students are under high pressure and are accustomed to frequently seeking counselors' help when they encounter problems. This study explored the mismatch between the competencies of medical counselors and the support needs of students in Yunnan Province, China. A random sampling method was used to evaluate 56 medical school counselors. Through purposive sampling, semi-structured interviews were conducted with 13 stakeholders and 8 experts to construct an expected competency model and identify key gaps (hard and soft competencies). The results revealed significant deficiencies in counselors' knowledge, skills, and attitudes and supported the exploration of a hybrid coaching & mentoring model based on the learning pyramid. A gap analysis-driven counselor active learning model (ALM-CG) was developed and validated. Longitudinal tracking and expert evaluation showed that ALM-CG significantly reduced competency gaps and improved counselors' adaptive performance. The intervention further developed participants' self-regulatory and reflective monitoring capacities, which are foundational to advanced metacognitive functioning. These results confirm the effectiveness of ALM-CG in improving counselors' competency and job performance. This study provides evidence for the implementation of targeted active learning interventions and offers a practical approach for the sustainable professional development and lifelong growth of higher education counselors, while also providing valuable reference for enhancing the competence of practitioners working in counseling positions in other industries.

**Keywords:** Counselors; Competency model; Gap analysis; Active learning; Performance improvement

## 1. Introduction

In the rapidly evolving landscape of higher education, student affairs professionals, particularly counselors, play a pivotal role in shaping students' academic, emotional, and social development. As universities face increasingly complex challenges—ranging from mental health crises and intercultural tensions to the integration of digital technologies—

counselors are expected to assume multifaceted responsibilities that extend far beyond traditional student support roles. This competency gap not only undermines the effectiveness of student services but also limits the institutional capacity to foster inclusive and supportive learning environments.

To address these issues, the present study proposes an innovative developmental framework grounded in active learning principles and competency gap analysis. This model seeks to systematically enhance university counselors' professional capabilities through targeted, data-informed training interventions. Metacognitive competence enables counselors to reflect upon their professional judgments, adjust their intervention strategies, and engage in continuous learning, especially when navigating ambiguous or high-stakes situations. Moreover, international research offers compelling evidence that embedding metacognitive strategies into counselor training programs can lead to measurable improvements in service quality and student outcomes. These global practices underscore a growing consensus: counselor effectiveness is not merely a function of knowledge or technical skill, but increasingly dependent on higher-order cognitive regulation and contextual adaptability. Against this backdrop, the current study introduces a Competency Gap – Active Learning Model (CG-ALM) specifically designed to address the pressing developmental needs of Chinese university counselors. By combining qualitative diagnostics (e.g., semi-structured interviews and thematic coding) with targeted training based on the active learning pyramid, this model aims to bridge critical competency gaps while fostering metacognitive growth. Ultimately, this study aims to foster a new cadre of university counselors who possess the reflective capacity, socio-emotional competence, and strategic insight required to navigate the increasingly complex landscape of higher education.

## **2. Literature Review**

As the World Economic Forum (2025) indicates in its Future of Jobs Report, the rapidly changing demands of global labor markets call for a reevaluation of institutional competencies, particularly within educational and counseling professions. Extensive research affirms that competency among counselors is not only critical to student success but also to institutional resilience. In practice, these abilities require the integration of both cognitive and metacognitive competencies. Lucia and Lepsinger (1999) define competency modeling as a structured approach to identify, describe, and cultivate behavioral indicators of successful performance within specific roles—an approach especially relevant for university counselors facing multidimensional demands.

Complementing this, theoretical contributions in educational psychology further elucidate the internal mechanisms by which competency influences performance. Bandura's (1997) theory of self-efficacy underscores the importance of belief in one's ability to influence outcomes. Flavell (1979) introduced the construct of metacognition, emphasizing individuals' ability to monitor and regulate their own learning and decision-making. Zimmerman (2002) extended this by proposing self-regulated learning as a dynamic cycle of planning, monitoring, and reflecting on one's performance—capacities particularly relevant for counselors engaging in continuous professional development. Paris and Winograd (1990) and Azevedo and Cromley (2004) also demonstrated the instructional and reflective benefits of metacognition in enhancing both individual performance and educational planning.

Feedback mechanisms and adult learning principles offer further insights. Hattie and Timperley (2007) emphasized the transformative role of feedback in refining professional practice, while Knowles, Holton, and Swanson (2014) emphasized experiential relevance,

autonomy, and problem-centered learning as key to adult development. These align with Kolb's (1984) experiential learning theory and Mezirow's (1997) transformative learning framework, both of which advocate reflective iteration as the engine of professional growth. Finally, Salas et al. (2012) integrate these principles into organizational learning ecosystems, emphasizing that performance development requires both structured feedback loops and flexible learning environments.

Taken together, this literature base supports the development of a structured, metacognitively informed model to address competency gaps among Chinese university counselors. The integration of global competency frameworks with localized institutional challenges highlights the need for contextualized, adaptive, and evidence-based training mechanisms to ensure sustained counselor development.

With the increasing global demand for mental health services, enhancing counselor competency and job performance has become a critical topic in the fields of education and psychology. In recent years, scholars have conducted extensive research on how to effectively bridge competency gaps and optimize training strategies. This section reviews relevant studies that examine the nature of competency gaps and how hybrid training approaches can improve counselor performance.

Mwenge et al. (2022) demonstrated that the consistency of counselor competency assessments is crucial for ensuring the quality of psychological services. Their study developed a hybrid training program combining in-person and remote components, which significantly improved inter-rater reliability among novice evaluators. This suggests that structured training can effectively reduce evaluation-related competency gaps and enhance overall counseling quality. Hidayah et al. (2024) proposed a culturally grounded hybrid training model integrating local wisdom from the Madurese culture into narrative counseling. Their findings indicated that incorporating local cultural elements into modern counseling techniques not only improved cultural competence but also enhanced counselors' practical skills. This hybrid approach effectively addressed cultural adaptation and professional development simultaneously. Liu and Liao (2024) explored the relationship between counselor competencies and job performance in higher education institutions. Their research highlighted that proficiency in crisis intervention, career counseling, and interpersonal communication is closely linked to performance outcomes. Tailored training programs that address these core competencies were found to significantly enhance counselors' effectiveness in supporting students' academic and personal growth. Meola et al. (2020) examined the impact of Equine Assisted Learning Supervision (EAL-S) on counseling trainees' performance anxiety and self-efficacy. The study revealed that even short interventions using EAL-S significantly improved counseling self-efficacy, helping trainees better manage the challenges associated with skill gaps and performance stress. From the perspective of counselor certification, Bernknopf et al. (1979) developed a performance-based model aimed at assessing and improving counselor capabilities. Their system emphasized real-world competency demonstrations, offering a standardized pathway to reduce skill gaps and improve practical effectiveness. In a related context, Manna and Sharma (2016) stressed the importance of Training Needs Analysis (TNA) in identifying and minimizing competency gaps. Although their study focused on the manufacturing sector, the use of a competency framework to assess and improve job-specific skills through targeted training can be effectively adapted to the counseling profession. Martino et al. (2011) introduced a stepwise, criterion-based training model for motivational interviewing, incorporating web-based learning, workshops, and individual supervision. This adaptive method matched training intensity to the learner's performance level, proving highly effective in improving counseling techniques and bridging skill gaps. Carandang et al. (2019)

evaluated a peer counseling training program for older adult volunteers in the Philippines. Their study showed significant improvements in both knowledge and skills post-training, along with enhanced subjective well-being among participants. This underscores the potential of hybrid training to both build competency and improve well-being in non-traditional counselor populations. Bruce and Keelin (1976) developed a competency-based supervision model, highlighting the importance of defining clear behavioral benchmarks in counselor training. Their approach provided structured feedback and guidance, enabling counselors to continuously improve their professional capabilities in applied settings. Finally, Lepkowski et al. (2009) investigated the discrepancies between self-assessments and expert evaluations of counseling skills. Their findings suggested that while training can improve actual performance, counselors often overestimate their abilities. Therefore, accurate feedback and regular performance assessments are essential components in training programs aimed at bridging competency gaps.

Recent innovations in technology-enhanced active learning validate this approach. Jennifer Young. (2024) demonstrated that AI-driven reflective coaching significantly improved counselors' metacognitive monitoring through real-time feedback. Complementarily, Willberg, Nanette (2024) *Designing Social Micro-Learning Interventions for Blended Learning Scenarios in Higher Education: Mixed Methods Case Study at Macromedia University of Applied Sciences*. This doctoral thesis explores the role of social micro-learning in enhancing blended learning within higher education. These studies confirm the efficacy of integrating diagnostic assessment with active pedagogy as implemented in ALM-CG.

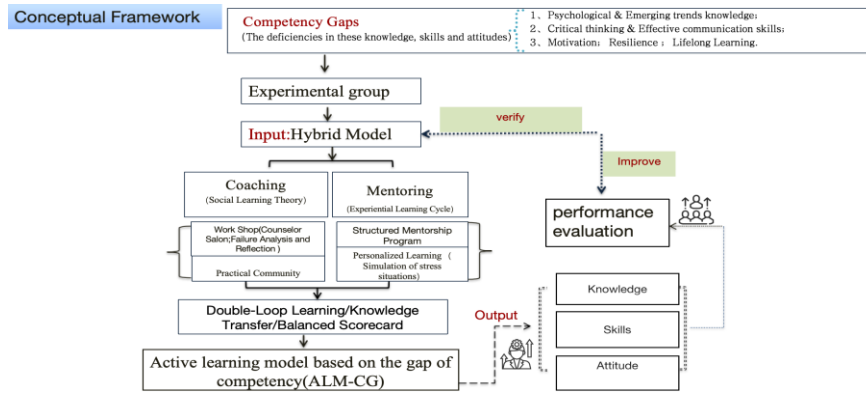
In summary, reducing competency gaps and improving counselor performance requires a multifaceted approach. Hybrid training models, due to their flexibility and adaptability, have emerged as effective methods. By integrating various learning formats, cultural contexts, and performance feedback mechanisms, these models significantly enhance counselor skill development and professional effectiveness.

### **3. Methodology**

#### **3.1 Model design and establishment**

To investigate the effectiveness of a structured learning model based on active learning theory and competency gap analysis in improving counselors' professional performance, this study adopted a mixed-methods quasi-experimental design. The research process was divided into six key stages to ensure both diagnostic accuracy and intervention validity. This study analyzed the competency gap, constructed a new competency model, and developed an active learning hybrid model (as shown in Figure 1) as an appropriate technique for transferring knowledge to university counselors. As a research case, the method design is based on the learning pyramid theory. Through the comparative analysis of data before and after implementation, the validity of the model is verified and knowledge output is formed. The conceptual framework is shown in Figure 1. This study adopts the quasi-experimental design method. On the premise of balancing realistic constraints and scientificity, through control group comparison, multi-stage measurement and verification of mixed data, the core question of "Whether the ALM-CG model can better narrow the ability gap than traditional learning" was effectively answered. The data collection process combines qualitative and quantitative methods. Such as semi-structured interviews, 360-degree feedback and scale analysis, etc. The model design and establishment are shown in Figure 1.

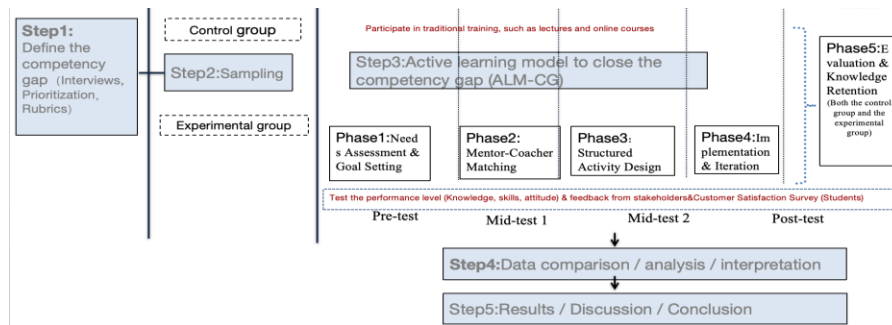
Figure 1: Model design and establishment



### 3.2 Research design

This study adopted a quasi-experimental design method. Under the premise of balancing realistic constraints and scientificity, it effectively answered the core question of "whether the ALM-CG model can narrow the ability gap better than traditional training" through control group comparison, multi-stage measurement and mixed data verification. The data collection process combined qualitative and quantitative methods, such as semi-structured interviews, 360-degree feedback and scale analysis. The research framework design is shown in Figure 2.

Figure 2: Research framework



### 3.3 Research procedure

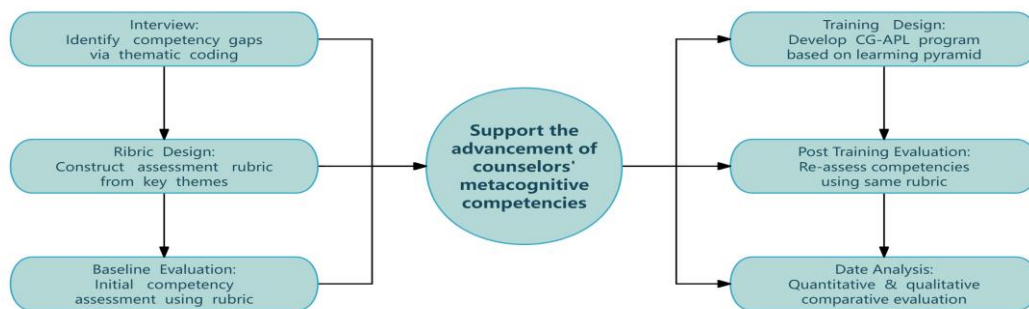
To put the active learning model of mentoring and coaching into practice (Figure 3), this study followed a structured six-step process as shown in Figure 4. First, competency gaps were identified through semi-structured interviews with 28 university counselors, which covered the perspectives of mentors, expert consultants, and colleagues. Each interview lasted approximately 45 minutes and was transcribed and thematically coded to extract high-frequency behavioral keywords and core themes related to expected role performance. Second, these keywords provided a reference for the development of a multidimensional competency assessment criterion covering knowledge, skills, behaviors, and attitudes. Each dimension included a performance level description, and a multi-stakeholder scoring mechanism was established—incorporating feedback from students, mentors, and colleagues—to ensure objectivity in scoring. Third, a baseline assessment of counselors' competencies was conducted using the criterion, which found significant deficiencies in psychology and emerging trend knowledge, critical thinking and effective communication skills, motivation, resilience, lifelong learning, emotion regulation, communication, and adaptive metacognition.

The intervention incorporates cognitive and metacognitive strategies, such as expert coaching, peer mentoring, guided facilitation, reflective journaling, and scenario-based role-playing, and emphasizes active learning, self-regulation, and reflective monitoring, aiming to enhance counselors' competency development in the areas of skills, attitudes, and knowledge. Fourth, the learning content was designed using the competency gap-active pyramid learning (ALM-CG) model to match the teaching content with the identified deficiencies. Fifth, the post-learning evaluation used the same 360-degree format, replicating the criterion-based assessment, which can be directly compared with the baseline results. Sixth, the pre- and post-assessment data were integrated for analysis. Quantitative scores were tested using paired sample t-tests and effect size calculations, while qualitative data (derived from reflections and journals) were analyzed by theme to interpret personal growth trajectories. This comprehensive process ensured that the impact of this learning model on counselors' competency development was empirically verified.

Figure 3: Active learning hybrid model



Figure 4: Research Methodology Flowchart



## 4. RESULT AND DISCUSSION

### 4.1 Determine the competency Gaps

The interview outline was systematically organized, and high-frequency words were extracted to identify key themes. Keywords such as "psychology and emerging trend knowledge", "critical thinking and effective communication skills", "motivation", "resilience", and "lifelong learning" stood out. After sorting out these keywords, stakeholders reconfirmed these keywords and prioritized them according to importance and urgency. The interview results generated a word cloud diagram, as shown in Figure 5.

Figure 5: Gap Analysis Interview Results Word Cloud



## 4.2 Effect Analysis

After the learning process was completed, the Rubric scale was distributed again to the stakeholders for the key indicators across three dimensions. The results showed that all the indicators had improved. Tables 1 and 2 respectively presented the results of the control group and the experimental group.

Table 1: Control group results

Rubric dimensions	Result						Cohen' s d
	MEAN		SD		T	P	
	Pre-test	Post-test	Pre-test	Post-test			
Psychology and emerging trend knowledge	2.43	2.55	0.54	0.72	2.14	<0.01	0.19
Critical thinking and effective communication skills	2.45	2.52	0.54	0.59	1.25	<0.01	0.12
Attitude (motivation&resilience&lifelong learning)	2.49	2.68	0.46	0.53	2.35	<0.1	0.38

Table 2: Experimental group results

Rubric dimensions	Result						Cohen's d
	MEAN		SD		T	P	
	Pre-test	Post-test	Pre-test	Post-test			
Psychology and emerging trend knowledge	2.57	3.05	0.42	0.57	7.40	<0.001	0.96
Critical thinking and effective communication skills	2.42	2.84	0.64	0.7	7.13	<0.001	0.63
Attitude (motivation&resilience&lifelong learning)	2.34	2.82	0.6	0.71	6.24	<0.001	0.73

### 4.3 Draw Result

Based on the empirical results, the control group exhibited only modest gains across all competency dimensions after traditional training, with limited improvement magnitudes and small-to-moderate effect sizes (Cohen's d ranging from 0.12 to 0.38). In contrast, the experimental group, which underwent the ALM-CG intervention, demonstrated substantially greater improvements in all three dimensions — knowledge, skills, and attitude. The intervention produced consistently strong and statistically significant effect sizes (Cohen's d ranging from 0.63 to 0.96, all  $p < 0.001$ ), indicating a robust enhancement in counselor competencies. Among the three dimensions, knowledge development was the most responsive ( $d=0.96$ ), highlighting the model's strength in promoting cognitive learning and knowledge acquisition. Comparative statistics between the experimental and control groups are summarized in Table 3.

Table 3. Data comparison

Experimental vs. Control Group Comparison			
Dimension	Pre-test Gap	Improvement Gap	Effect Size Gap
	(Exp -Ctrl)	(Exp $\Delta$ -Ctrl $\Delta$ )	(Exp d-Ctrl d)
Psychology and emerging trend knowledge	-0.15	0.29	0.74
Critical thinking and effective communication skills	0.14	0.36	1.0
Attitude (motivation&resilience&lifelong learning)	-0.03	0.35	1.11

### 4.4 Discussion

Based on the updated empirical data, the integration model of active learning and competency gap analysis (ALM-CG) has proven to be highly effective in advancing the



professional competencies of college counselors. This study employed a structured intervention informed by the ALM-CG framework and systematically assessed its impact across three core competency dimensions: knowledge, skills, and attitudes. The experimental group exhibited statistically significant improvements in all areas ( $p < 0.001$ ), with large effect sizes—Cohen's  $d$  values of 0.96 for knowledge, 0.63 for skills, and 0.73 for attitudes—reflecting robust and educationally meaningful gains. Among these, knowledge acquisition showed the highest relative improvement, underscoring the model's cognitive scaffolding capabilities. The moderate-to-large effect on attitudes ( $d = 0.73$ ) also highlights the model's capacity to foster affective and motivational development, potentially driven by components such as peer mentoring, reflective journaling, and scenario-based role-playing. Compared to traditional training, the ALM-CG model offers a more immersive and cognitively activating learning environment, utilizing metacognitive prompts, collaborative assessments, and contextualized problem-solving to enhance both declarative and procedural knowledge. These mechanisms not only strengthen self-regulated learning and emotional resilience but also bridge critical gaps in adaptive behavior and strategic counseling competencies. Overall, the findings provide strong empirical validation for the ALM-CG model and underscore the value of integrating cognitive and metacognitive strategies in counselor development programs.

In this research, the control group exhibited only modest effect sizes across all three competency dimensions (Cohen's  $d$  ranging from 0.19 to 0.38), reflecting limited improvements following traditional training. These small effect sizes suggest that while some learning or attitudinal change may have occurred, the overall gains were marginal and lacked pedagogical depth. This outcome aligns with expectations for conventional instructional formats, which often emphasize unidirectional knowledge transmission and lack opportunities for reflective engagement, contextualized practice, or metacognitive activation. The minimal gains observed in the control group may also be partially attributable to test familiarity or minor procedural repetition effects, which can produce superficial score increases in short-term pre-post evaluations. Moreover, the absence of immersive, problem-centered learning components likely restricted participants' ability to internalize new competencies or adaptively apply knowledge. In contrast, the experimental group achieved consistently large and statistically significant gains across all measured dimensions, with effect sizes well above 0.5, affirming the impact of the ALM-CG intervention. The stark divergence in outcomes between groups underscores the pedagogical efficacy of integrating active learning with gap analysis and highlights the importance of structured, metacognitively oriented training in fostering durable and meaningful professional growth.

## **5. Conclusion**

This study provides actionable guidance for implementing ALM-CG across three tiers: (1) Individual counselors should adopt reflective journals and peer mentoring to address self-identified gaps; (2) Departments must design blended training (e.g., biweekly role-playing + monthly expert coaching) targeting Rubric-measured deficiencies (Table 3); (3) Institutions need policies allocating  $\geq 20\%$  workload for active learning and aligning promotions with competency benchmarks (e.g. post-assessment scores  $\geq 3.0$  in adaptive metacognition). The model's core methodology—diagnostic gap analysis followed by metacognitive skill integration—enables cross-industry adaptation (e.g., healthcare/corporate sectors) through context-specific scenario replacement, ensuring scalable competency enhancement.

Meanwhile this study examines a persistent competency gap in the professional preparation of university counselors, particularly within the context of medical colleges in China. The empirical findings affirm that the ALM-CG model—grounded in metacognitive theory and experiential pedagogy—has the potential to substantially enhance key counseling competencies, including strategic thinking, self-reflection, and adaptive responsiveness. These enhancements were reflected not only in statistically significant effect sizes but also in participants' subjective reflections and evaluative feedback.. However, the practical implementation of this model faces structural obstacles. Counselor development is often institutionally undervalued, treated as an administrative supplement rather than a strategic necessity. In the absence of institutional policies that dedicate sufficient time, funding, and professional incentives, the effectiveness of even rigorously designed interventions may be diminished. Moreover, standardized training formats remain dominant, conflicting with the ALM-CG model's emphasis on individual cognitive activation and reflective engagement. Addressing this tension requires rethinking how universities define, support, and evaluate the counselor's role—not as a reactive service provider, but as a proactive agent of student development and institutional well-being.

Beyond demonstrating a viable training approach, this study also contributes to a broader reconsideration of counselor professionalization. In light of evolving student needs—including rising psychological distress, academic uncertainty, and digital learning pressures—counselors are increasingly expected to fulfill complex, interdisciplinary functions. Yet current training regimes often neglect competencies in emotional regulation, trauma-informed practice, and digital communication. The ALM-CG model offers a flexible and responsive framework that can be adapted to these emerging demands, but its success depends on structural alignment and policy support. Limitations of the current study include its single-institution setting and short-term assessment scope; future research should examine the model's scalability, long-term retention effects, and impact on student outcomes. In conclusion, this study calls for a shift from episodic, compliance-based training toward embedded, cognitively rich professional development. Counselor capacity-building must be integrated into institutional strategies—not only to improve service quality but also to strengthen the educational ecosystem as a whole. The ALM-CG model represents a step toward that objective, offering a possible path for both individual counselor growth and competency gap reduction.

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